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Ag84F
no. 1357
rev.
1930

Rev 1/30

U. S. DEPARTMENT OF AGRICULTURE

FARMERS' BULLETIN No. 1357

CASTRATION OF HOGS

THIS BULLETIN tells how to castrate young pigs properly and includes additional directions for performing the operation on boars, ridgelings, and sows. Castration aids in the control of breeding practices and in boars prevents the development of sexual odors and flavors in the meat. A clear and accurate knowledge of the subject is consequently beneficial.

This bulletin supersedes Farmers' Bulletin 780, Castration of Young Pigs.

Washington, D. C. December, 1923; slightly revised July, 1930

CASTRATION OF HOGS

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OBJECTS OF CASTRATION

Castration is the name applied to the operation which results in the destruction of the reproductive powers of animals by removal of the sex glands. This name is used by veterinarians both for the operation for removal of the testicles from the male and the ovaries from the female. Commonly, however, the term "spaying" is used when referring to the removal of the ovaries from the female and castration for the operation performed on males.

The object of castration is to maintain the quality of the meat, to prevent indiscriminate breeding among hogs of a herd, and to prevent the development of sexual odors and flavors which occur in the meat of "entire," or uncastrated, male animals. Service boars which are no longer required for breeding purposes may be castrated at any age. These are classified on the market as stags. The strong sexual odors become modified and usually entirely disappear within 10 to 12 weeks after castration.

It is best, however, to perform castration at a very early age; that is, before sexual maturity is reached. The earlier it is done, the less will be the interruption in development. The characteristic features become modified as a result of castration of male animals and in general the type becomes more refined. The castrated pig is called a "barrow," and in its further development takes on the outlines of the sow rather than the boar.

Before and sometimes for a short time after birth the testicles are contained within the abdominal cavity. Under normal conditions they pass through narrow openings at the base of the abdomen and continue through small canals (inguinal) to the scrotum, pushing ahead of them folds of the membrane (peritoneum) which lines the abdominal cavity. These folds (reflections) of the peritoneum constitute the membranes covering the testicles which are severed in the operation of castration.

There are probably a greater number of abnormal conditions to be found in the generative organs of hogs than among any other class of animals. This is particularly true among the males. In large numbers of hogs there are frequently to be found cases of rupture (inguinal or scrotal hernia), which are commonly referred to as "busted." There are also cases in which the testicle fails to descend from the abdomen into the scrotum on either the right or the left side, making it possible to remove only one by the usual method of castration. These are known as ridgelings and must be operated upon in a special way, as described later. Farmers who castrate their own hogs successfully may learn also to perform these operations and thus make it possible to save these hogs for meat purposes. The services of skilled veterinarians if available should always be obtained when the value of the animals justifies their employment, but frequently the farmer must depend on his own skill in saving the animals or suffer the loss of the prospective value of the hog carcass.

AGE AT WHICH TO CASTRATE

Male pigs which are not to be used for breeding boars should be castrated when quite young. It is very desirable that the operation be so timed that the operative wounds are entirely healed before weaning. At such age pigs are easily handled, the operation is conveniently and successfully performed, and perfect healing of the wounds is facilitated through their being nourished and protected by the sow. Complications, with attendant

[1] Deceased.

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stunting of growth, which sometimes happen at later ages, are not so liable to occur at this age. When the operation is allowed to go beyond weaning age breeding frequently results among the young animals of the herd. The practice of castration before weaning time, then, is a good one for the hog grower to establish.

TIME FOR OPERATING

Castration may be performed successfully at any season of the year. The usual seasons when sows farrow—spring and fall—establish the preferable periods when castration should be performed, namely, early summer and late fall. When possible, clear, cool days should be selected for the operation, and cold, damp weather avoided.

FIG. 1.—Position for castration

PREPARATION OF PIGS FOR THE OPERATION

The preparation of pigs for castration is the same as that indicated for any other surgical treatment. A light diet for 24 hours is necessary. This requires that suckling pigs be denied any hand-fed feeds, or access to self-feeders containing feeds for supplementing the mother's milk. The digestive tract should never be distended with feed at the time of operating.

A thorough washing of the scrotum with an antiseptic solution, such as a 2 per cent solution of liquor cresolis compositus, or cleansing with soap and water is a part of the operation which should not be neglected. Extremely irritating disinfectant solutions should be avoided since complete sterilization of the parts can not be had. Irritating solutions are painful to the cut surfaces and serve no useful purpose. They may cause rubbing of the wounds and so result in greater injury to the parts.

OPERATIVE PROCEDURE

An assistant should hold the pig by grasping the front and hind legs of either side, with its back resting on the ground and giving it support with his knees or as shown in the illustrations. These positions make it convenient for thorough washing of the scrotum and surrounding parts. Mild antiseptic solutions may be used for final cleansing of the operative area, the hands of the operator, and the necessary instruments, in order that no infection may be transmitted to the wounded surfaces. The testicle on the side farthest from the operator is held firmly between the thumb and fingers of the left hand, while an incision is made by a single stroke of a sharp knife parallel to the middle line of the body and about one-half inch from it. This incision should pass through the skin near the top of the testicle as it is being held and

FIG. 2.—Cleansing before operation

through the testicular coverings into the body of the testicle itself. The mistake is commonly made of cutting too low on the scrotum as the pig is held for the operation. Unless properly cut it is impossible for proper drainage to result when the pig is restored to its natural position. Following the incision the testicle quickly slips out from its membranes and is easily held during its complete removal. By a slow scraping and twisting process the attachments are separated with but little bleeding. After the removal of this testicle, which requires but a short time, the one next the operator is removed in a similar manner.

When castrating larger hogs or boars which are no longer required for breeding purposes, it is necessary to have them held securely upon their backs. It will require several men to hold a large boar for the operation, and if these are not available, or with very heavy boars, it will be necessary to tie the front and hind legs of each side securely with strong rope. The important point in controlling the hog is to keep the feet off the ground, holding the animal squarely on its back.

The operation is performed in the same manner as with small pigs, the only precaution to be observed being the prevention of excessive bleeding. In some instances the blood vessels of old boars become somewhat hardened and the inner coats do not wrinkle in such way as to facilitate the forming of blood clots which plug the vessels and prevent hemorrhage. Such cases would bleed freely and possibly be followed by serious results. It is advisable therefore to tie a ligature tightly around the cord before scraping through to sever the vessels. The healing process usually proceeds satisfactorily.

It is unnecessary to apply a dressing of any kind to the wounds for purposes of disinfection. It is objectionable from the fact that it interferes with the quick healing process which usually results. The lymph and blood serum which escape at the edges of the wound contain sufficient germicidal properties to take care of ordinary exposure to organisms. Blood and serum are known to possess properties which retard decomposition changes for long periods, and any interference with the normal blood action through the use of disinfectants is highly objectionable.

In some instances it may be necessary to use applications of pine tar as a protection against flies. In a skillfully performed operation of castration on a normal animal whose scrotum has been carefully washed and in which a clean knife has been used, little swelling or discharge will follow. When, on the

FIG. 3.—Making the incision

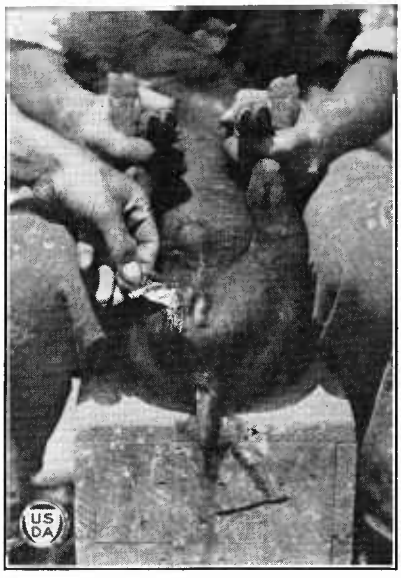

FIG. 4.—Cord of testicle exposed

other hand, the wounds become infected, it is necessary that they be treated like other infected wounds, using such disinfectants and dressings as may be indicated.

OPERATING ON RUPTURED PIGS

Rupture (inguinal hernia) is a condition in which a portion of the intestines passes through the ring and canal representing the passageway which the testicle followed in its descent from the abdomen to the scrotum. When ruptured or "busted" pigs are castrated there is danger of the intestines slipping through this canal and out at the opening in the scrotum made by the operation. It is necessary, therefore, that especial care be taken in the castration of ruptured pigs. They should be kept without feed for 24 hours or should have limited rations for several days. The loop of intestines present in the scrotum at the time of operation must be carefully replaced by manipulation. This is done by holding the hind end of the pig upward and carefully working the intestines down into the abdomen with the fingers. The testicle is then carefully removed, but before the thin membrane (the peritoneum) is allowed to recede it must be carefully sewed or sutured with silk thread in order to close the cavity completely and prevent the escape of intestines.

FIG. 5.—Scraping the cord

Another method which gives good results consists in fastening a ligature securely around the entire cord above the testicle before the peritoneal membrane has been cut through. This effectually protects against the escape of intestines after the operation and prevents internal bleeding. It is desirable also to unite the two sides of the inguinal canal with several stitches in order to protect the canal further against any possibility of rupture before healing occurs. When the external wound heals after an operation of this kind it is a rare thing for any subsequent trouble with ruptured pigs.

THE OPERATION FOR RIDGELINGS

The most convenient method for operating upon ridgelings is to place the pig on a table with that side uppermost on which the testicle is present. The hair is completely clipped from above the flank of the pig and the whole region thoroughly washed. An incision 3 to 4 inches in length is made through the skin and superficial and deep layers of abdominal muscles, in the flank, as shown in Figure 7, which exposes the surface of the thin membrane (peritoneum) covering the intestines. This membrane is then carefully opened and with the fingers passing through the opening the testicle is located. The testicle is withdrawn through the opening and its

FIG. 6.—Cleansed wound, completing the operation

cord carefully severed by tearing or scraping its attachments. The thin membrane is then securely sutured with silk thread to prevent any subsequent rupture. A few stitches should be taken also in the deeper layer of muscles in order to draw their cut edges together so that they will firmly unite. The external muscles and skin are next sutured and may be united with the same stitches. These are placed at close intervals in order to close the wound completely and act as supports for pressure from the intestines, until union of the tissues is complete.

The various steps in the operation are shown in the illustrations and may be easily followed in actual practice on a pig. The operation is not difficult and should be performed rather than having to discard the animal as food, since the carcass of a ridgeling possesses odors and flavors identical with those of the unaltered boar. It is desirable

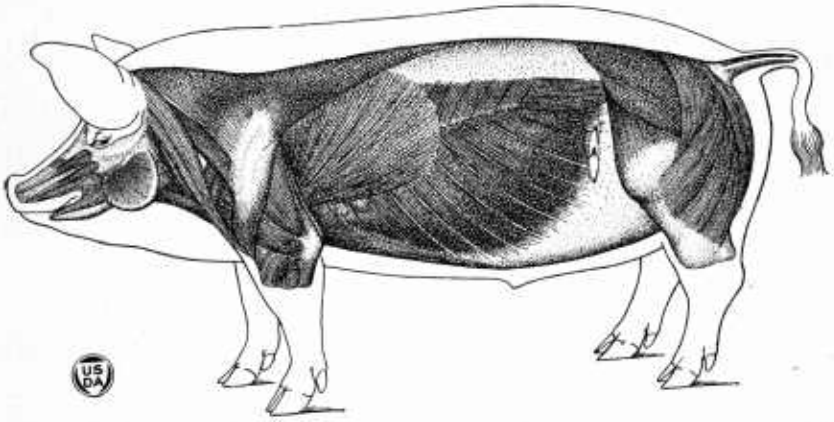

FIG. 7.—Superficial muscles of pig. The external oblique muscles and the broad fibrous bands continuing them at the flank show the structures immediately under the skin which must be divided in an operation on ridgelings. (*A*) Approximate site for the incision upon ridgelings and for spaying sows

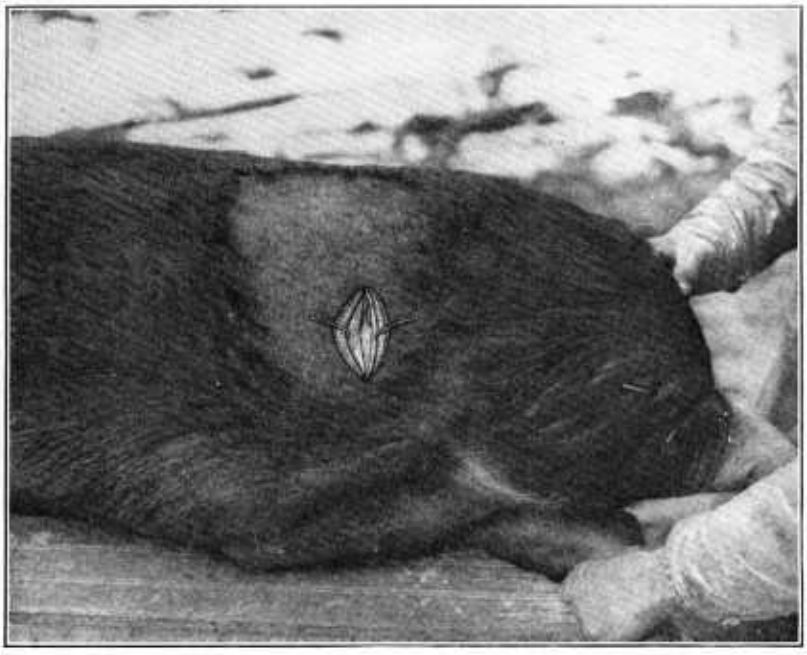

FIG. 8.—Operative wound showing loop of intestines exposed at the upper portion of the incision. The testicles of a ridgeling usually lie near the backbone and slightly to the rear of the incision. They are located with the fingers, drawn through the opening, and carefully removed

to perform this operation early rather than wait until increased size of the pig makes it more difficult and at the same time more dangerous.

SPAYING OPERATION

Spaying or castration of gilts is seldom done, though at one time it was rather commonly practiced because the opinion prevailed that such hogs fattened more readily. This operation on sows has no especial value, since hogs usually take on fat quite readily, and the flesh of uncastrated sows, not possessing any disagreeable flavor or odor, is not improved by it.

The procedure is similar to that recommended for ridgelings. The flank incision allows the ovaries to be reached without difficulty. Like the testicles of males, the ovaries are pinched or scraped from their attachments and not cut directly with knife or scissors. Sometimes the operation is performed by making the incision parallel to and about one-half inch from the middle line of the belly. This has no advantage over the flank operation and ruptures are perhaps more likely to follow.

FIG. 9.—Operation on ridgeling. The wound healed and ready for removal of stitches

U. S. GOVERNMENT PRINTING OFFICE: 1937

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